

WHAT IS CLAIMED IS:

1. A computer program that makes a computer function as:
managing a relationship between first configuration information
concerning a configuration of a first network layer and second
5 configuration information concerning a configuration of a second
network layer, and automatically updates the first configuration
information and the second configuration information following a change
in the configuration; and
instructing the second network layer, when the configuration of
10 the first network layer is changed, to change the configuration of the
second network layer.
2. The computer program according to claim 1, wherein
when a bandwidth is changed in the first network layer, the
15 instructing includes issuing a change instruction to the second network
layer concerning the change of the bandwidth.
3. The computer program according to claim 1, wherein
the second network layer consists of a plurality of layer
20 elements, and the managing includes managing a relationship between
the second configuration information and the first configuration
information for each of the plurality of layer elements.
4. The computer program according to claim 1, wherein
25 the managing includes managing service information concerning

communication service provided from the first network layer and the second network layer, by relating the service information to the first configuration information and the second configuration information, and automatically updating the first configuration information, the second
5 configuration information, and the service information following the change of the configuration.

5. The computer program according to claim 4, wherein
when the communication service is being provided, the
10 instructing includes notifying the network layer about disapproval of changing the configuration.

6. The computer program according to claim 1, further comprising receiving a notification of an occurrence of a trouble from the first
15 network layer, wherein the instructing includes notifying the second network layer about the occurrence of the trouble.

7. The computer program according to claim 6, wherein
the instructing includes notifying, upon lapse of a predetermined
20 time since the occurrence of the trouble, a network manager about the occurrence of the trouble.

8. The computer program according to claim 1, wherein
the first network layer is configured to have a link, and the
25 second network layer is configured to have a path that is utilized in the

link.

9. A network layer link apparatus comprising:

5 a managing unit that manages a relationship between first configuration information concerning a configuration of a first network layer and second configuration information concerning a configuration of a second network layer, and automatically updates the first configuration information and the second configuration information following a change in the configuration; and

10 a link unit that, when the configuration of the first network layer is changed, instructs the second network layer to change the configuration of the second network layer.

10. The network layer link apparatus according to claim 9, wherein

15 when a bandwidth is changed in the first network layer, the link unit issues a change instruction to the second network layer concerning the change of the bandwidth.

11. The network layer link apparatus according to claim 9, wherein

20 the second network layer consists of a plurality of layer elements, and the managing unit manages a relationship between the second configuration information and the first configuration information for each of the plurality of layer elements.

25 12. The network layer link apparatus according to claim 9, wherein

the managing unit manages service information concerning communication service provided from the first network layer and the second network layer, by relating the service information to the first configuration information and the second configuration information, and
5 automatically updates the first configuration information, the second configuration information, and the service information following the change of the configuration.

13. The network layer link apparatus according to claim 12, wherein
10 when the communication service is being provided, the link unit notifies the network layer about disapproval of changing the configuration.

14. The network layer link apparatus according to claim 9, wherein
15 when the link unit receives a notification of an occurrence of a trouble from the first network layer, the link unit notifies the second network layer about the occurrence of the trouble.

15. The network layer link apparatus according to claim 14, wherein
20 after a lapse of a predetermined time since the occurrence of the trouble, the link unit notifies a network manager about the occurrence of the trouble.

16. The network layer link apparatus according to claim 9, wherein
25 the first network layer is configured to have a link, and the

second network layer is configured to have a path that is utilized in the link.

17. A network layer link method comprising:

5 managing a relationship between first configuration information concerning a configuration of a first network layer and second configuration information concerning a configuration of a second network layer, and automatically updates the first configuration information and the second configuration information following a change
10 in the configuration; and
instructing the second network layer, when the configuration of the first network layer is changed, to change the configuration of the second network layer.

15 18. The network layer link method according to claim 17, wherein when a bandwidth is changed in the first network layer, the instructing includes issuing a change instruction to the second network layer concerning the change of the bandwidth.

20 19. The network layer link method according to claim 17, wherein the second network layer consists of a plurality of layer elements, and the managing includes managing a relationship between the second configuration information and the first configuration information for each of the plurality of layer elements.

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20. The network layer link method according to claim 17, wherein
the managing includes managing service information concerning
communication service provided from the first network layer and the
second network layer, by relating the service information to the first
5 configuration information and the second configuration information, and
automatically updating the first configuration information, the second
configuration information, and the service information following the
change of the configuration.
- 10 21. The network layer link method according to claim 20, wherein
when the communication service is being provided, the
instructing includes notifying the network layer about disapproval of
changing the configuration.
- 15 22. The network layer link method according to claim 17, further
comprising receiving a notification of an occurrence of a trouble from
the first network layer, wherein the instructing includes notifying the
second network layer about the occurrence of the trouble.
- 20 23. The network layer link method according to claim 22, wherein
the instructing includes notifying, upon lapse of a predetermined
time since the occurrence of the trouble, a network manager about the
occurrence of the trouble.
- 25 24. The network layer link method according to claim 17, wherein

the first network layer is configured to have a link, and the second network layer is configured to have a path that is utilized in the link.